

MEHTOD OF MAKING A BIT LINE CONTACT DEVICE

Abstract

A method for making a bit line contact on a substrate is provided. Two gate conductor stacks are formed on a main surface of the substrate in close proximity to each other. A bit line contact forming area is defined above the area between the two gate conductor stacks. A silicon dioxide lining film is deposited on a top surface and sidewalls of the gate conductor stacks. A sacrificing layer is deposited on the silicon dioxide lining film. The sacrificing layer is then polished to expose the top surface of the gate conductor stacks. A spin-on-glass (SOG) film is then coated on the sacrificing layer. A resist pattern masking the bit line contact forming area is formed on the SOG film. The un-masked SOG film, sacrificing layer and silicon dioxide lining film are etched away. A silicon nitride thin film is deposited on the remaining SOG film. A BPSG layer is deposited on the silicon nitride thin film and is then polished to expose the SOG layer. The exposed SOG layer and the underlying sacrificing layer are removed to form a bit line contact hole.